

REMARKS

The Office Action dated June 15, 2005 has been received and its contents have been carefully considered. Reconsideration and withdrawal of the rejections and objections contained therein is respectfully requested, at least in view of the foregoing amendments and the following remarks.

Upon entry of this Amendment, claims 1-35 will be pending in the present application. Claims 4-6, 8 and 15 have each been amended to include all of the subject matter recited in the claims upon which they previously depended. Upon entry of this amendments, claims 1, 4-6, 8, 15, 22, 25, 30 and 35 will be independent claims. No new matter has been added.

Rejection of Claims 9 and 14 Under 35 U.S.C. §112:

Claims 9 and 14 have been rejected under 35 U.S.C. §112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. This rejection is respectfully traversed.

In the Office Action, it is alleged that the word “normal” is unclear. However, as defined in *Webster’s Ninth New Collegiate Dictionary*, the word “normal”, when used as a noun, refers to “a normal line” and, when used as an adjective, means “perpendicular to a tangent at a point of tangency”. Therefore, Applicants respectfully submit that one of skill in the art understands that the “surface normals” recited in claims 9 are lines that extend perpendicularly to the “light reflecting surfaces” recited in claim 9 and that the “surface normal” recited in claim 14 is understood by one of skill in the art to be a line that extends perpendicularly from the “concave optical surface” recited in claim 14.

At least in view of the above, Applicants respectfully submit that claims 9 and 14 each particularly point out and distinctly claim the subject matter recited therein. Therefore, reconsideration and withdrawal of the rejection of claims 9 and 14 under 35 U.S.C. §112, second paragraph, is respectfully requested.

*Rejection of Claims 1-3, 7, 9-12 and 18-21 Under 35 U.S.C. §102(e):*

Claims 1-3, 7, 9-12 and 18-21 have been rejected under 35 U.S.C. §102(e) as being anticipated by U.S. Patent No. 6,876,305 B2 to Kadwell et al. (Kadwell'305). This rejection is respectfully traversed.

As illustrated in FIG. 2A thereof, Kadwell'305 discloses an obscuration sensor 200 that implements five non-planar mirrors 202, 204, 206, 208, 210 (see also, column 12, lines 36-38). Kadwell'305 also discloses that an obscuration emitter 212 is located within a test chamber 220 and that the obscuration emitter 212 is preferably placed at an eighteen degree angle to the horizontal centerline of the mirror 202 (column 12, lines 42-45). However, Kadwell'305 fails to disclose or suggest at least a smoke detector that includes first and second spaced-apart optical components having respective first and second opposed light reflecting surfaces, as recited in claim 1 of the present invention.

As defined in *Webster's Ninth New Collegiate Dictionary* (1989), the term "opposed" means "to place opposite". In turn, when used as an adjective, "opposite" means, "situated in pairs on an axis with each member being separated from the other by half the circumference of the axis". At least for this reason, one of skill in the art appreciates that the "first and second opposed light reflecting surfaces" recited in claim 1 of the present application are positioned directly across from each other, as illustrated in FIGS. 4A-4B and 5 of the present application.

When reading Kadwell'305, one of skill in the art will appreciate that the outside edge of the obscuration sensor 200 disclosed therein may be defined as the circumference of the axis upon with the mirrors 202, 204, 206, 208, 210 also disclosed therein are situated. As such, one of skill in the art will further appreciate that any pair of mirrors 202, 204, 206, 208, 210 chosen from FIG. 2 of Kadwell'305 will be separated from each other by either  $1/5$ ,  $2/5$  or  $3/5$  of the circumference defined by the outside edge of the obscuration sensor 200. However, no pair of mirrors 202, 204, 206, 208, 210 are separated by *one-half* of the circumference. In other words, no two mirrors 202, 204, 206, 208, 210 disclosed in Kadwell'305 are "opposed" to each other.

At least for this reason, Applicants respectfully submit that Kadwell'305 fails to disclose or suggest at least the "first and second opposed light reflecting surfaces" recited in claim 1 of the present application. Therefore, at least in view of the above remarks, reconsideration and withdrawal of the rejection of claim 1 under 35 U.S.C. §102(e) over Kadwell '305 is respectfully requested.

Claims 2-3, 7, 9-12 and 18-21 each depend, either directly or indirectly, upon claim 1 of the present application and thereby inherit all of the patentable distinctions thereof. Therefore, claims 2-3, 7, 9-12 and 18-21 are patentable over Kadwell'305 at least for the reasons discussed above in connection with claim 1. At least in view of the above remarks, reconsideration and withdrawal of the rejection of claims 2-3, 7, 9-12 and 18-21 under 35 U.S.C. §102(e) over Kadwell '305 is also respectfully requested.

Rejection of Claims 13, 16 and 17 Under 35 U.S.C. §103(a):

Claims 13 and 16-17 have been rejected under 35 U.S.C. §103(a) as being unpatentable over Kadwell '305 in view of U.S. Patent No. 3,748,014 to Beiser (Beiser '014). It is acknowledged in the Office Action that Kadwell '305 fails to disclose or suggest that one of the

first and second reflecting surfaces disclosed therein is in the form of a concave optical surface and that the other is in the form of a plano optical surface. However, it is alleged in the Office Action that Beiser '014 discloses such components and may be combined with Kadwell '305 to yield the claimed invention. This rejection is respectfully traversed.

Claims 13 and 16-17 each depend directly upon claim 1 and thereby inherit all of the patentable distinctions thereof. Therefore, claims 13 and 16-17 are patentable over Kadwell '305 at least for the reasons discussed above in connection with claim 1.

Applicants respectfully submit that Beiser '014 fails to address or overcome any of the above-discussed shortcomings of Kadwell '305. Therefore, Applicants respectfully further submit that Beiser '014 and Kadwell '305, taken either individually or in combination, fail to disclose or suggest the subject matter recited in claims 13 and 16-17 of the present application.

At least in view of the remarks made above, reconsideration and withdrawal of the rejection of claims 13 and 16-17 under 35 U.S.C. §103(a) over Kadwell '305 in view of Beiser '014 is respectfully requested.

Allowable Subject Matter:

Applicants thank the Examiner for allowing claims 22-35. Applicants also thank the Examiner for acknowledging that, although they are objected to as being dependent upon a rejected base claim, claims 4-6, 8, 15 and 16 would be allowable if re-written in independent form including all of the limitations in the base claim and any intervening claims. Because, as discussed above, claim 16 was rejected under 35 U.S.C. §103(a), it appears as though a typographical error was made. Therefore, the discussion of the allowability of claim 16 appears above.

The amendment of claims 4-6, 8 and 15 directly addresses the Examiner's comments and, by placing each of these claims in independent form, overcomes the Examiner's objection. Therefore, at least in view of the above amendment of claims 4-6, 8 and 15 and remarks, reconsideration and withdrawal of the objection to claims 4-6, 8 and 15 is respectfully requested.

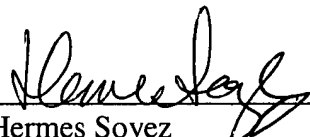
CONCLUSION

In view of the foregoing remarks, Applicants submit that the application is now in condition for allowance. If the Examiner believes that the application is not in condition for allowance, Applicants respectfully request that the Examiner contact the undersigned by telephone at (202) 861-1716 if it is believed that such contact will expedite the prosecution of the application.

In the event this paper is not time filed, Applicants petition for an appropriate extension of time. Please charge any fee deficiencies or credit any overpayments to Deposit Account No. 50-2036 referring to 87319.4561.

Respectfully submitted,

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